Traditional Feather Boards: Here's How I Make Them

by Gord Graff in Newmarket, Ontario

Feather boards have been around in one form or another for a long time and for most woodworkers they are invaluable. It's like having a second or third pair of hands that never get tired. Below are two methods that I've used to make feather boards over the years, one is a band saw method and the other is a table saw method.

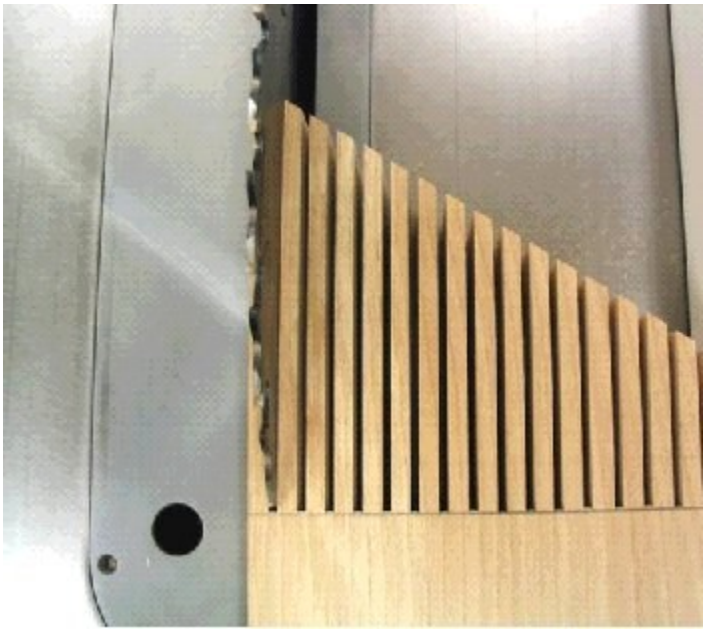
The feather board to the left is typical of what you'll find in your local woodworking store, it does the job but we can improve on it greatly.

First, I start with a pair of *blanks* that will eventually be made into feather boards. The first blank is a piece of maple, ¾" x 7½" x 28", I'll use this blank to cut a feather board on the band saw. The second blank is a piece of beech 1½" x 5½" x 22" and I'll use the table saw method to cut the fingers for this one. I start by cutting the ends of the blanks at a 30° angle on the table saw or the miter saw.

A square line is drawn across the blanks 1½" in from the shortest leg of the blank. This tells me where to stop the saw blade on either the band saw or the table saw. This line indicates the length of the *fingers* of the feather board. The next thing I need is a gauge stick, the one I'm using is a ¾" x 5/16" x 24" and can be made from any scrap lying around the shop. Using this thickness of gauge stick will create a 3/16" thick finger with the thin kerf saw blade that's in the saw. When used on the band saw, this gauge stick will create a ¼" finger.

Different thicknesses of this gauge st fingers. I place the beech blank against the fence of the table saw and slide the fence over so that there is a ¼" between the fence and the blade. When this first cut is made, it will become the first or shortest finger of the feather board. The first finger is cut to the line and the saw is turned off while the stock is held in place.

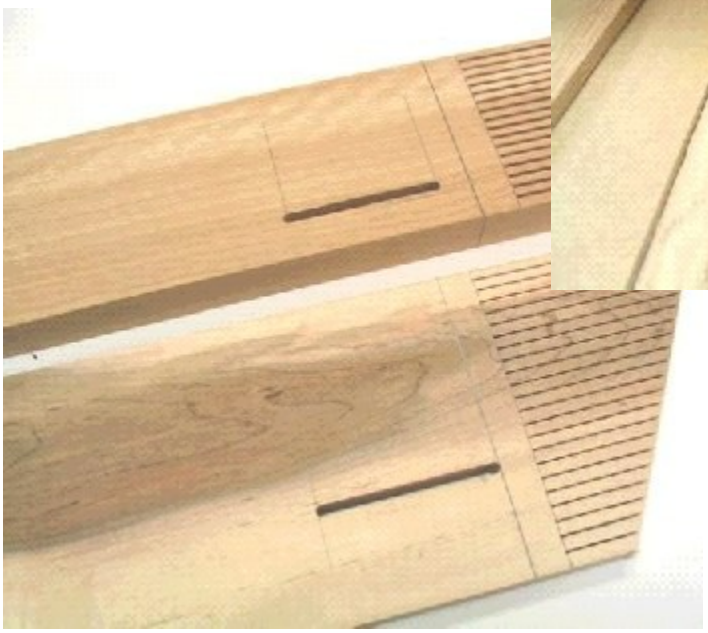
With the saw shut off, I now move the fence over enough to place the gauge stick in between the stock and the fence and lock the fence in this position. I remove the gauge stick, retract the stock from the blade and place the stock against the fence and cut the next finger. This is continued until the width of the feather board is cut. This and the next two photos should give you an idea of the process.



Once the feather board's fingers are cut I now draw a line across the width of the board 1" below the stop point of the cut fingers. This line represents the length of the saw's cut on the underside of the blank.

Even with the saw blade raised to its maximum height, it still cuts farther on the underside of the blank by 1". The band saw method does not have this undercutting issue.

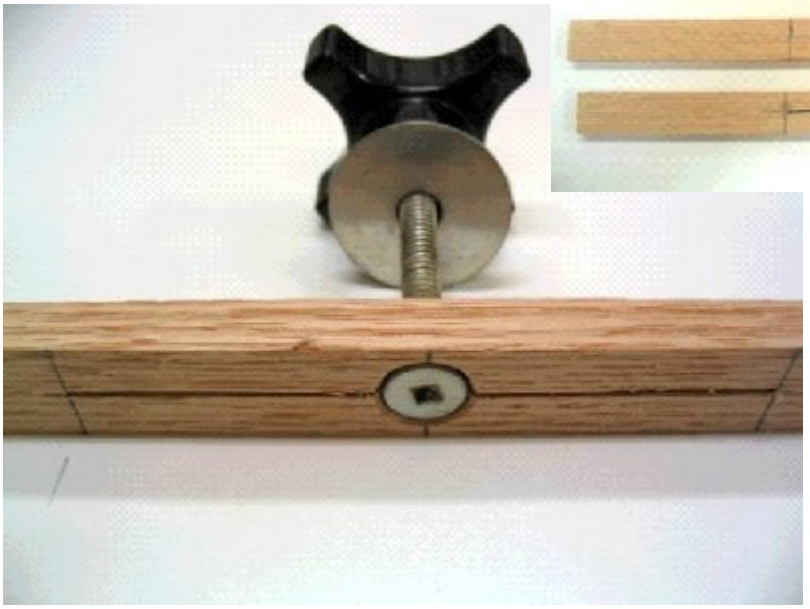
The band saw method of cutting the fingers is almost the same as the table saw method except I prefer to start with the longest finger first. The rest is pretty much straight forward and the completion of these feathers shows that.



I now mark both the blanks with a straight line across the width, the maple blank (the one cut on the bandsaw) needs a line ¾" from the base of the fingers and the beech blank (the one cut on the table saw) requires a line ¾" past the line previously marked, indicating the undercut from the table saw blade. A ¼" x 4" groove is routed through both blanks, 2½" from the bottom edge for the maple blank and 1¼" from the bottom edge for the beech blank. This groove will allow the completed feather board to adjust on the saw by means of a ¼"–20 machine screw; more on that later.

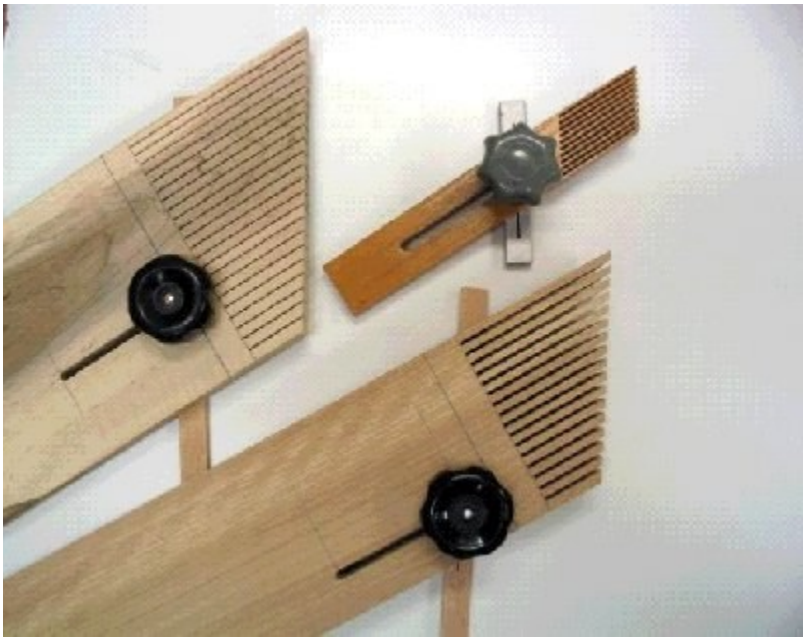
To secure the feather board in the miter slot of the table saw, a hardwood runner must be made. Here I've used oak to produce the 12" hardwood runner that's been milled to a thickness of 3/8" and a width of ¾", a perfect fit for the table saw's miter slot. The runner is drilled with a ¼" brad point bit in the center of the runner, marked with a line through the center 2" on either side of the center hole and counter sunk with an appropriate bit.

A narrow jig saw blade is then used to cut the line through the runner to a length of 4". The photo to the right shows the stages that the runner goes through, the top runner in the photo being the first step and followed by the next and so on.



The photo at left shows what the completed hardwood runner should look like. When the large jig nut is tightened down on the feather board, the head of the ¼"–20 machine screw is forced up into the runner spreading the runner against the sides of the miter slot, locking it in place.

Looking at the completed feather board you can see that not only does it have the same adjustability as the store bought feather board but the shop made feather board has the ability to be clamped to the saw, something missing in the store bought one. Two points of fixation are a lot more desirable than the single point that the store bought feather board offers.



I've made dozens of feather boards over the years and I like these two the best.

I'm always on the hunt for ways of improving my feather board collection and I doubt that I'll stop here. It's an ongoing process.